

AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A medical apparatus, comprising:

a hollow cylinder defining an inner diameter, an outer diameter, and having a constant radial thickness along the entire longitudinal length of the cylinder;

~~open cells removed from~~ the hollow cylinder having cutout portions defining generally longitudinal members in the remaining material of the cylinder and defining connection points between adjacent longitudinal members, the connection points not being created by spot welding or film gluing and lacking bulk and stress concentrations associated with conventional joint techniques; and

at least a pair of adjacent generally longitudinal members each having a circumferential width, wherein the radial thickness is greater than the circumferential width.

2. (Previously Presented) The medical apparatus of claim 1, wherein each generally longitudinal member joins with adjacent generally longitudinal members to form merge sections.

3. (Previously Presented) The medical apparatus of claim 2, wherein the generally longitudinal members and merge sections form a continuous cylindrical structure.

4. (Withdrawn) The medical apparatus of claim 2, wherein each generally longitudinal member only joins with opposing adjacent members at opposing ends of the generally longitudinal member.

5. (Previously Presented) The medical apparatus of claim 2, wherein each generally longitudinal member alternately joins with alternating adjacent generally longitudinal members throughout the length of the generally longitudinal member.

6. (Currently Amended) The medical apparatus of claim 1, wherein the generally longitudinal members each comprise:

two curved sections of opposing curvature joined end-to-end.

7. (Previously Presented) The medical apparatus of claim 1, wherein the generally longitudinal members each comprise:

at least three curved sections each joined end-to-end with curved sections having opposing curvature.

8. (Previously Presented) The medical apparatus of claim 1, further comprising:

a compressed condition defining a reduced inner diameter and outer diameter, wherein the endoprosthesis is capable of compression to the compressed condition.

9. (Previously Presented) The medical apparatus of claim 1, further comprising:

an expanded condition defining an increased inner diameter and outer diameter, wherein the endoprosthesis is capable of expansion to the expanded condition.

10. (Previously Presented) The medical apparatus of claim 9, wherein the expanded condition further defines a conical shape of the endoprosthesis.

11. (Withdrawn) The medical apparatus of claim 1, wherein the circumferential width of at least one generally longitudinally extending member varies along a length thereof.

12. (Currently Amended) A single-piece cylindrical endoprosthesis comprising:

a plurality of circumferential spaced beams each defining a longitudinal length, each beam having a forward end, a rear end, and a constant radial thickness along its entire longitudinal length, at least a pair of adjacent circumferential spaced beams each having a circumferential width less than the radial thickness;

a plurality of forward merge sections formed by the front ends of two adjacent beams; and

a plurality of aft merge sections formed by the rear ends of two adjacent beams;

whereby the combination of beams, forward merge sections and aft merge sections form a continuous cylindrical structure and define connection points not being created by spot welding or film gluing and lacking bulk and stress concentrations associated with conventional joining techniques.

13. (Previously Presented) The endoprosthesis of claim 12, further comprising:

a plurality of middle merge sections formed from the intermittent joining of adjacent beams.

14. (Previously Presented) The endoprosthesis of claim 12, wherein the beams further define at least one pair of curved sections of opposing curvature joined end-to-end.

15. (Previously Presented) The endoprosthesis of claim 14, wherein the point at which the curved sections meet defines an inflection point.

16. (Withdrawn) The endoprosthesis of claim 12, wherein the circumferential width of at least one beam is varied along its length.

17. (Currently Amended) A single piece endoprosthesis comprising:

a plurality of longitudinal beams connected in a cylindrical structure to define connection points not being created by spot welding or film gluing and lacking bulk and stress concentrations associated with conventional joining techniques, at least a pair of adjacent longitudinal beams, each beam having a circumferential width and a constant radial thickness along the entire longitudinal length of the beam, wherein each of the beams has a radial thickness which is greater than the circumferential width;

an expanded configuration wherein each beam is mostly curved throughout its length.

18. (Withdrawn) The endoprosthesis of claim 17, wherein the beams are prevented from overlapping in the compressed configuration by having a thickness greater than their width.

19. (Withdrawn) The endoprosthesis of claim 18, wherein each beam defines a width and a thickness which at least one-third times the width.

20. (Previously Presented) The endoprosthesis of claim 17, wherein the beams are continuously curved when in the expanded condition.

21. (Withdrawn) The endoprosthesis of claim 17, wherein the beams are uniformly bent throughout their length when in the expanded condition.

22. (Previously Presented) The endoprosthesis of claim 17, wherein the beams are free from stress concentrations in the expanded configuration.

23. (Previously Presented) The endoprosthesis of claim 17, wherein the expanded configuration defines a conical shape.

24. (Withdrawn) The endoprosthesis of claim 17, wherein at least one beam has a thickness that varies along its length.

25-36. (Canceled).

37. (Currently Amended) The medical apparatus of claim 1, wherein the medical apparatus lacks a hinge structure having a profile which differs from that of the pair of longitudinal struts members.

38. (Previously Presented) The endoprosthesis of claim 12, wherein at least one of the plurality of circumferential spaced beams has a generally uniform cross-section along its length.

39. (Previously Presented) The endoprosthesis of claim 17, wherein at least one of the plurality of longitudinal beams has a generally uniform cross-section along its length.

40. (New) A medical apparatus, comprising:

a hollow cylinder having an inner diameter, an outer diameter, and a constant radial thickness along the entire longitudinal length of the cylinder, the hollow cylinder having cutout portions which form a plurality of longitudinal beams in the remaining material of the cylinder, each beam having a longitudinal length and a circumferential width which is less than the radial thickness of the hollow cylinder, each beam being attached to an adjacent beam by at least one merge section, wherein each beam has substantially the same circumferential width as the other beams.

41. (New) The medical apparatus of claim 40, wherein each merge section is integral with each longitudinal beam joined at that merge section.

42. (New) The medical apparatus of claim 40, wherein each of the longitudinal beams has a compressed condition in which the beam is substantially straight and an expanded condition in which the beams cooperatively form a conical shape.